Notes on the range and ecology of Sichuan Treecreeper *Certhia tianquanensis*

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On the basis of museum specimens from two sites in central Sichuan, Li (1995) described a new taxon of treecreeper (*tianquanensis*) as a subspecies of the widely ranging Eurasian Treecreeper *Certhia familiaris*. However, this description went largely unnoticed even by Chinese ornithologists. A few years later, during an avifaunal survey of the Wawu Shan plateau in Sichuan, Martens *et al.* (2002, 2003) found a distinct treecreeper with an unfamiliar vocalisation, which they could not immediately identify. After recourse to museum specimens, they realised that what they had found was Li's (1995) *tianquanensis*, although they had found it occurring alongside Eurasian Treecreeper on Wawu Shan. Morphologically and vocally, the new taxon seemed to more closely resemble the Brown-throated Treecreeper *C. discolor*, but Martens *et al.* (2002) opted to accord it species status on account of a very large difference between the cytochrome b genes of the two taxa as well as their distinct morphology, voice and ecological requirements.

The new species, Sichuan Treecreeper *C. tianquanensis*, has only been found at five localities in Sichuan within a small geographical area in the mountains west of Chengdu and Leshan (Martens *et al.* 2003). Field observations during the breeding season were only made at three of these: Labahe Natural Reserve, Longxi-Hongkou Forest and Wild Animal Nature Preserve and the Wawu Shan plateau (Martens *et al.* 2002, 2003). These records indicate that Sichuan Treecreeper is dependent on open coniferous forest (mostly fir *Abies* spp.) in climax stage at least between 2,650 m and 2,900 m. This habitat has been targeted by large-scale logging operations in Sichuan, which have presumably greatly reduced and fragmented the former range of Sichuan Treecreeper. Martens *et al.* (2002) attributed the apparent absence of the species from Emei Shan to habitat disturbance, as the fir stands at the peak of that mountain are relatively small and close together.

NEW RECORDS

On 16–17 June 2003, I saw and heard several individual Sichuan Treecreepers within old-growth fir forest at 2,830 m on the table top of Wawu Shan (central Sichuan; 29°38′N 102°57′E). As suggested by Martens *et al.* (2002), this species is not particularly rare at this site and can be found easily with knowledge of its vocalisations.

On 26 June 2003, during a field visit to Jiuzhaigou Nature Reserve (north Sichuan; 32°44′N 104°09′E) far north of its currently known range, I recognised the song of Sichuan Treecreeper in an old-growth stand of fir at c.2,800–2,900 m. The bird called once out of view, but soon flew into excellent view on a fir trunk c.6 m away. Its identity was firmly established by its long tail, extremely short bill and the diagnostic plumage coloration on the underparts (grading from brown on the undertail-coverts to light white on the chin). The bird was observed for several minutes and the area was revisited on the following day, when presumably the same individual was seen at the same site (even on the same tree). Again, the bird called at long intervals, possibly because of the late date, but I managed to make a tape-recording (Fig. 1).

On 6 July 2003, during an ascent from the research station of Wuyipeng in Wolong Biosphere Reserve (central Sichuan; 31°03′N 103°08′E), I had another unexpected encounter with a singing individual in a large stand of giant fir trees at c.2,800 m. The bird was seen singing, and the same site was revisited two days later, when two individuals were seen at the same location and an additional bird was heard calling along the same trail at an elevation c.30 m lower. The characteristic coloration of the underparts as well as the proportions of tail and bill were noted on both birds seen. Unfortunately, no tape-recorder was at hand.

DISCUSSION

These new records highlight that the distribution of Sichuan Treecreeper is far wider than hitherto believed. Wolong Biosphere Reserve is not far from Shuanghe (Dayi county) and Longxi-Hongkou Forest and Wild Animal Nature Preserve, the northernmost

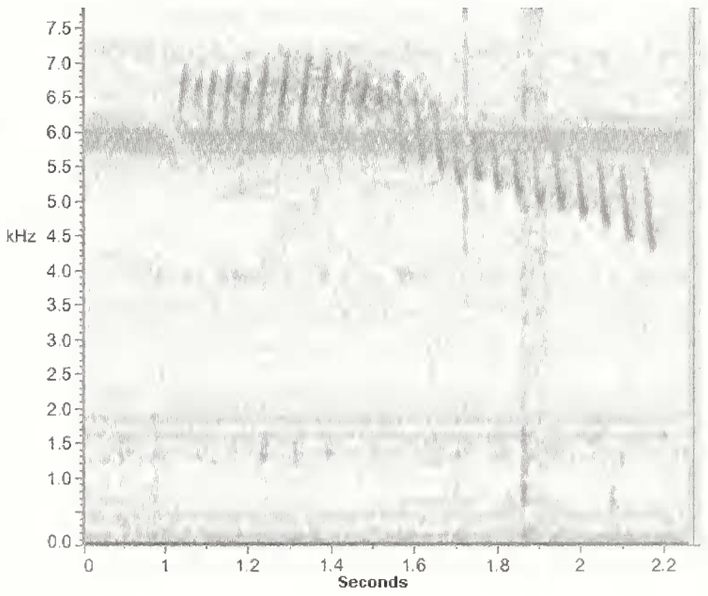

Figure 1. Sonagram of the trill of Sichuan Treecreeper recorded on 27 June 2003 in Jiuzhaigou Nature Reserve (north Sichuan). Sonagram produced using RAVEN sound software (Cornell Bioacoustics Research Program).

sites where the species has so far been encountered. Jiuzhaigou Nature Reserve, on the other hand, lies in the extreme north of Sichuan, more than 200 km north of Wolong/Shuanghe, and the new record more than doubles the north-south extension of the species's range as previously known. Both Wolong and Jiuzhaigou are easily accessible, frequented by large numbers of tourists and are regularly visited by ornithologists. It is therefore surprising that the new taxon has gone unnoticed at two of the best-surveyed sites in central China. It might be expected to be found at many other sites through specific searches. However, little suitable habitat persists except in the most rigorously protected areas in Sichuan.

How can the Sichuan Treecreeper have evaded detection for so long? One answer may lie in its distinct song, which is completely different from that of all other treecreepers, but superficially approaches the songs of two syntopic warbler species in quality, namely the Buff-barred Warbler *Phylloscopus pulcher* and Lemon-rumped Warbler *P. chloronotus*. The descending trill of *P. pulcher* and the level trill of *P. chloronotus* are much longer than the song of *C. tianquanensis*. Furthermore, the latter starts out with a level trill that begins to descend only after roughly 1 second. Nonetheless, the occasional treecreeper song may have been passed over as an interrupted warbler trill because observers were unaware of what to listen out for.

Another explanation for the elusiveness and apparent scarcity of Sichuan Treecreeper may be its ecological requirements. The species seems to be restricted to open old-growth fir forests within a narrow elevational range. This confinement probably accounts for its local and discontinuous distribution. Yet it is absent even from apparently suitable sites (Martens *et al.* 2002), raising the possibility that its ecological requirements are narrower than presently understood. The coniferous forest on the large flat plateau on top of Wawu Shan, where the species is common, is characterised by a wealth of Yunan fir *Abies fabri* trees, little young growth and an extensive bamboo ground cover (Martens *et al.* 2002). The habitat at the new site in Wolong where I encountered the species is very similar to Wawu Shan in that there is an open stand of Yunan firs on a near-level ridge with 100% bamboo ground cover. During nine days of fieldwork at Wolong, Sichuan Treecreeper was only found at this one locality, which happened to be the only site where such a plant association occurred at the right altitude. The site lies along an undefined trail roughly three hours uphill from the research station of Wuyipeng. It is apparently seldom visited by ornithologists, who mostly opt to stay around more easily accessible areas (L. Zhong verbally 2004). I recorded no other treecreeper species at Wolong.

The site in Jiuzhaigou where the species was found differs from those in Wolong and Wawu Shan in that the forest is situated on a steep slope. However, the plant community at this site too is dominated by giant firs and bamboo, though the latter only covered around 60–70% of the ground. This site is also towards the end of a seldom walked and ill-defined trail. This was the only place in Jiuzhaigou where I encountered bamboo during an 8-day stay. Within the nature reserve, Yunan fir stands still exist at a number of more readily accessible locations at roughly the same elevation. Several of these, such as the designated 'Primeval Forest' at Swan Lake, are visited by many ornithologists every year. However, at all these locations both an extensive bamboo ground cover and Sichuan Treecreeper are apparently absent. Large bamboo stands seem to have existed in the 'Primeval Forest' more than a decade ago (Wheatley 1996), but must have died off in the meantime. At Jiuzhaigou, Eurasian Treecreeper and Bar-tailed Treecreeper *C. himalayana*, were also recorded albeit at elevations roughly 150 m and 250 m lower, respectively, than Sichuan Treecreeper.

In conclusion, these new records indicate that Sichuan Treecreeper is more widely distributed than previously assumed. They also seem to confirm the species's association with both Yunan firs and dense bamboo undergrowth as noted by Martens *et al.* (2002). Sichuan Treecreeper forages on Yunan firs, but the reasons for its apparent association with bamboo are not yet known. Further research is required to determine its habitat requirements and ecology in a more detail.

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